ZyXEL

Single Zero-Install Indoor Unit

- IEEE 802.16e-2005 WiMAX Air Interface (TDD SOFDMA-based 2.5GHz, 3.5GHz, 2.3GHz)
- High Transmit Power (27dBm), 6dBi Built-in Antenna, and External Antenna Option
- AAS Beamforming Smart Antenna
- 802.16e Security for Authentication and Ciphering
- QoS Management
- One Analog Phone Connections for SIP (RFC3261) VoIP
- One Ethernet Plug with Advanced Embedded IP Networking Features
- Local and Remote Control and Software Upgrade Capabilities

Benefits

The Ultimate Broadband Wireless Technology

The MAX-200M1/210M1/230M1 supports state-of-the-art IEEE 802.16e-2005 SOFDMA-based radio interface also known as WiMAX.

Built-In Internal Antenna & Flexible External Antenna

MAX-200M1/210M1/230M1 not only provides a 6dBi antenna internally, but also a flexible external antenna system that enables users to change higher gain antenna easily for specific needs.

SIP-Based VoIP Communication

VoIP signaling supports standard SIP (RFC3261) suitable for IP telephony service deployments. Sophisticated voice compression and QoS mechanisms provide toll-quality voice communication.

Advanced IP Networking Features

MAX-200M1/210M1/230M1 supports advanced IP networking features, including all security features needed to access the Internet safely.

Easy Deployment

MAX-200M1/210M1/230M1 is a simple box designed to be self-installable by end users without operator involved. Rich LED bars showing the WiMAX radio signal strength can be used to adjust the direction and position as well.

Software Upgrade Over the Air

MAX-200M1/210M1/230M1 is fully configurable and software upgradeable over the WiMAX radio interface. The upgrades and can be triggered by the operator.

IEEE802.16e Simple CPE

MAX-200M1
MAX-210M1
MAX-230M1

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IEEE802.16e Simple CPE

MAX-200M1
MAX-210M1
MAX-230M1

Specifications

WiMAX Air Interface

- Reference standard: IEEE 802.16e-2005 SOFDMA
- Radio Access Method: TDD
- Frequency:
  2.500-2.700GHz (MAX-200M1)
  3.400-3.600GHz (MAX-210M1)
  2.300-2.400GHz (MAX-230M1)
- Channel Bandwidth / FFT size: 5MHz / 512FFT, 8.75MHz/1024 FFT and 10MHz/1024FFT (software selectable)
- Central frequency resolution: 125kHz
- Modulation: QPSK, 16QAM, 64QAM (DL only)
- FEC: CC (Convolutional Coding), CTC (Convolutional Turbo Code)
- Smart antenna: AAS according to WiMAX Forum Profile
- Maximum output power at antenna port: 27dBm ±1dB
- Built-in patch antenna : 6dBi, 70° azimuth, 30° elevation
- SMA antenna connector equipped with 2dBi omni antenna, 60° beam width by default
- Up to 5 Mbps downlink, 2 Mbps uplink for user data
- QoS management based on classification
- Security: EAP-TTLS/CHAP-based user authentication, CMAC message authentication, CCM mode 128-bit AES data ciphering

IP Networking

- User configurable Router (RIPv1, RIPv2) and NAT (one-to-one, many-to-one)
- Embedded Security: Firewall with SPI, Content Filtering, Java/ActiveX/Cookie/Keyword blocking
- Major ALG (SIP/FTP/H.323)
- DHCP client/server/relay and PPPoE

Voice over IP

- SIP V2 (RFC 3261) and SDP (RFC 2327)
- G.711 a/μ and G.729 codec
- Echo cancellation G.168
- AD (Voice Activity Detection), Silence suppression and CNG (Comfort Noise Generation)
- DTMF Detection and Generation
- Fax, Modem Detection and Pass-through (T.38)

Phone Features

- Caller ID and Message Waiting Indicator (RFC 3842)
- Call Waiting, Call Hold, Call Forward (Unconditional/Busy/No Answer) and Call transfer (Blind and Attended Transfer)
- Early Media, Music on Hold
- MWI (Message Waiting Indicator (RFC 3842), IVR (Interactive Voice Response)

NAT Traversal

- STUN (RFC 3489)
- Outbound Proxy
- Manual configuration SIP and RTP

Management

- Remote TFTP/HTTP Firmware Upgrade
- Web-based/SNMP/Telnet Management
- Over-the-air firmware upgrade : TR-069, Auto-Provision

Hardware Specifications

- 1 Ethernet connector: 10/100 BaseT Auto MDI/MDIX (RJ-45 plug)
- 1 FXS POTS phone port for conventional phone (RJ-11 plug)
- LEDs : Power indication, WiMAX connection status, LAN status, VoIP status LED
- Restore Factory Defaults/Reboot button

Power Specification

- External power supply: 18V DC
- Average power consumption in worst case scenario : 10W; peak: 15W

Physical Specifications

- Dimension: 120 (W) x 50 (D)x160 (H) mm
- Weight: 433 g

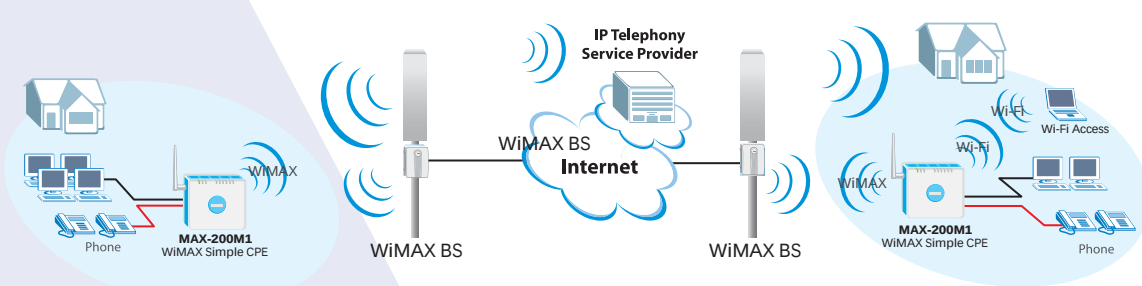
Environmental Specifications

- Operation Temperature: 0°C ~ 45°C
- Operation Humidity : 10% ~ 90% (non-condensing)
- Storage Temperature: -25°C ~ 55°C
- Storage Humidity: 10% ~ 95% (non-condensing)

Certification

- EMC and Safety: ETSI EN 301 489, EN 60950, CE marked for EMC and Safety
- WEEE Eco directive 2002/95/EC

Application Diagram



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